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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/621,825	07/21/2000	Jung Tae Kang	06192.0146AA	4506
32605 7590 12/27/2007 MACPHERSON KWOK CHEN & HEID LLP 2033 GATEWAY PLACE SUITE 400 SAN JOSE, CA 95110			EXAMINER NGUYEN, JIMMY H	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 12/27/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/621,825	Applicant(s) KANG ET AL.	
	Examiner Jimmy H. Nguyen	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5,9,11-13 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 23 is/are allowed.
- 6) ☒ Claim(s) 5,9,11-13 and 18-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered. Claims 1, 5, 9, 11-13 and 18-23 are currently pending in the application. An action follows below:

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5, 9, 11-13, and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yun et al (USPN: 5,835,139), hereinafter Yun, in view of Murai (USPN: 5,986,726), and further in view of Williamson et al. (USPN: 5,475,381), hereinafter Williamson.

As to **claims 5 and 18**, Yun discloses **a display device** (see a LCD device as shown in fig. 7) comprising **a LCD module** (or a monitor unit) (a LCD assembly structure as shown in fig. 6) including **a backlight assembly** (an assembly including elements **110-180**, see fig. 6) having **a light source** (a luminescent lamp **110**, see Fig. 6) and **a rear surface** (a rear surface of a reflector 140 is a rear surface of the backlight assembly; see Fig. 6), **a LCD panel** (a liquid crystal panel **300**, see Fig. 6) arranged on the backlight assembly (110-180), **a mold frame** (a first support frame **190**, see Fig. 6) receiving the backlight assembly (110-180) and extending

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over the entire rear surface of the backlight assembly (see Fig. 6), and a **chassis** (a second frame support **400**, see Fig. 6) coupled to the mold frame (190) to fix the backlight assembly and the LCD panel therebetween (see Fig. 6; col. 4, lines 48-54); **an information processing module** (a driving circuit board **23**; see col. 2, lines 18-20, best seen in Fig. 1) inherently including a video signal processing unit for generating video signals and for providing video signals to the liquid crystal panel via a flexible film (see col. 2, lines 18-20); **a printed circuit board** coupled between the information processing module (23) and the LCD panel (21) (see Fig. 1), receiving the video signals from the information processing module (23) and generating and providing a gate driving signal and a data driving signal to the LCD panel (21) (Figs. 1 and 6; col. 1, lines 44-48; col. 2, lines 18-20); and **an input unit** (a keyboard, see Fig. 5 or 9) provided externally to the monitor unit and inherently connected to an inherent central processing unit (Fig. 5 or 9). Yun does not disclose expressly that the central processing unit is comprised in the information processing unit.

Accordingly, Yun discloses all limitations of these claims except for a limitation (i) “the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side” of **claim 5**; a limitation (ii) “the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side” of **claim 5**; a limitation (iii/1) “an information processing module is mounted on a rear surface of the mold frame and disposed in a receiving space defined by a reinforcing bracket located on the rear surface of the mold frame” of **claim 5**, and a limitation (iii/2), “an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame” of

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claim 18; a limitation (iv) the central processing unit is comprised in the information processing unit, in the manner as presently recited in the claims **5 and 18**.

Regarding to the limitation (i), **“the mold frame is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side”**, Murai discloses a related information processing apparatus (fig. 5) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, col. 4, lines 10-12), that accepts the backlight assembly (7) (figs. 1, 2 and 5, col. 4, lines 10-12) and a LCD panel (5) (figs. 1, 2 and 5, col. 3, lines 64-66), and formed closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side (the side to the left of the light guiding plate 7, as shown in figs. 1 and 5) adjoining the light source toward a second side (the side to the right of the light guiding plate 7) opposite the first side. Further see col. 4, lines 16-39. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the Yun mold frame formed closely to the rear surface of the backlight assembly, so as to form the mold frame gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side, while maintaining the rear surface of the mold frame still to be rectangular in shape, in view of the teaching in the Murai reference, because this would provide an apparatus with features of small size, thin thickness and light weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the limitation (ii), **“the chassis is formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side”**, while Murai exemplifies only the mold frame formed to be gradually thinner as

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further advancing from a first side adjoining the light source toward a second side opposite the first side and may not exemplify the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side; however, since the Yun backlight assembly has a wedge shape as viewed from a side, it would have been within the level of skill in the art and obvious to one having ordinary skill to engineering design the shape of the Yun chassis as desired (i.e., the chassis formed to be gradually thinner as further advancing from a first side adjoining the light source toward a second side opposite the first side) as the shape of the modified mold frame, which is taught by the Murai reference, and as was judicially recognized in re Dailey, 149 USPQ 47 (CCPA 1976), because this would provide an apparatus with features of smaller size, thinner thickness and lighter weight, as taught by Murai (col. 2, lines 1-3).

Regarding to the claimed limitation (iii/1), **“an information processing module is mounted on a rear surface of the mold frame and disposed in a receiving space defined by a reinforcing bracket located on the rear surface of the mold frame”** of claim 5, and the limitation (iii/2), **“an information processing module is attached to a rear surface of the mold frame and disposed in a receiving space defined on the rear surface of the mold frame”** of claim 18, Murai (see Fig. 1) teaches the display device (see Fig. 1) comprising a mold frame (a frame structure corresponding to the claimed mold frame and defined by the metal sheet 1 and the resin frame 2, see Fig. 1, col. 4, lines 10-12), that accepts the backlight assembly (7) (Fig. 1, col. 4, lines 10-12) and a LCD panel (5) (Figs. 1, 2 and 5, col. 3, lines 64-66), and an information processing module (4) attached or mounted to a rear surface of the mold frame (a bottom surface of a metal sheet 1, i.e., a rear surface of the frame structure) (see Figs. 4-5; col. 5,

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lines 6-9) and disposed in a receiving space defined by a reinforcing bracket (14) integrally formed on the rear surface of the mold frame (1) (Figs. 3-4; col. 4, lines 56-64), for generating and supplying a driving signal to drive LCD panel via the source printed circuit board (a driver circuit provided in peripheral edges of the circuit array substrate, col. 5, lines 40-53). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to attach or mount the Yun information processing module (23) on a rear plane of the Yun mold frame and dispose the Yun information processing module (23) in a receiving space defined by a reinforcing bracket integrally formed on the rear surface of the mold frame, in view of the teaching in the reference, because this would substantially prevent electromagnetic wave noises generated by a driver circuit board from interfering with other electronic components, as taught by Murai (see col. 2, lines 8-11).

Regarding to the claimed limitation (iv), **“the central processing unit is comprised in the information processing unit”**, Williamson (Figs. 1-2) discloses a LCD device (see Figs. 1 and 2) comprising an information processing module (a module including elements 56-59, 61, 70, 71, 73, and 90, see Fig. 2) including a central processing unit (a microcontroller 56, col. 3, lines 27-32). It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to utilize Williamson’s teaching above, i.e., locating the Yun central processing unit in the Yun information processing unit, because this would reduce the size of the apparatus which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to combine Yun, Murai, and Williamson to obtain the inventions defined by claims 5 and 18.

As to **claims 9 and 20**, Yun device comprises an inherent data storage device for storing or supplying data in response to the control signals from the central processing unit. Yun does not expressly teach the data storage disposed in the information processing module, as presently claimed. However, as noting in figs. 1-2, Williamson discloses data storage (61) disposed in the information processing module. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to locate the data storage in the Yun information processing module, in view of the teaching in the Williamson reference, because this would reduce the size of the apparatus which is small enough to fit into a pocket, as taught by Williamson (col. 2, lines 54-60).

As to **claims 11 and 19**, Yun further teaches the LCD module and the information processing module, both fixed together between a front case (520) and a rear case (500) coupled to each other (fig. 7, col. 4, lines 55-65).

As to **claims 12 and 21**, Williamson further teaches the storage unit (61) comprising RAMs (62, 63) and ROM (64) (col. 3, lines 38-41).

As to **claims 13 and 22**, Williamson further teaches the information processing module further comprising interfacing means for interfacing data with an external information processing module (col. 7, lines 8-10), sound control means (system speaker 72, col. 4, lines 17-19) and

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communicating means for performing external communication (IR emitter 53 and IR receiver 54, see fig. 2).

Allowable Subject Matter

4. Claims 1 and 23 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: the claimed invention is directed to a structure of a LCD device. Independent claim 1 identifies the uniquely distinct features, “a frame-shaped reinforcing bracket having a central opening installed on a rear surface of the mold frame and an information processing module disposed within the central opening of the reinforcing bracket” (see lines 11-14). The closest prior arts, Yun, Murai, and Williamson discussed above, in combination, fail to anticipate or render the above underlined limitations obvious.

Response to Arguments

6. Applicant's arguments, see pages 6-7 of the amendment filed on 10/31/2007, with respect to the rejections under 35 USC 112, first and second paragraphs, in the Office Action dated 08/27/2007, have been fully considered and are persuasive in light of the amendments to all independent claims. However, upon further consideration, the new grounds of rejections are made above.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675. The examiner can normally be reached on Monday - Friday, 6:30 a.m. - 3:00 p.m..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JHN
December 26, 2007

A handwritten signature in black ink, appearing to read 'JHN', with a stylized flourish extending to the right.

Jimmy H. Nguyen
Primary Examiner
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